

## II. Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method of manufacturing a microelectronic device, comprising:  
forming a patterned feature over a substrate;  
depositing a conformal polymer layer over the patterned feature and the substrate, wherein such depositing employs a fluorine-containing plasma source;  
etching the polymer layer to expose the patterned feature and a portion of the substrate, thereby forming polymer spacers on opposing sides of the patterned feature; and  
forming an insulating layer over the polymer spacers.
2. (Original) The method of claim 1 wherein the conformal polymer layer is deposited in a chemical reactive plasma environment.
3. (Original) The method of claim 1 wherein the substrate comprises diamond.
4. (Original) The method of claim 1 wherein the substrate comprises strained silicon.
5. (Original) The method of claim 1 wherein the patterned feature is a semiconductor device gate structure.
6. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises CF<sub>4</sub>.
7. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises CF<sub>3</sub>.
8. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises C<sub>2</sub>F<sub>2</sub>.
9. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises CH<sub>2</sub>F<sub>2</sub>.

10. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises  $\text{CHF}_3$ .

11. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises  $\text{C}_2\text{F}_6$ .

12. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises  $\text{C}_3\text{F}_8$ .

13. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises  $\text{SF}_6$ .

14. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises  $\text{C}_3\text{F}$ .

15. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises  $\text{CH}_3\text{F}$ .

16. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source comprises a fluorocarbon.

17. (Currently Amended) The method of claim 1 wherein a flow rate of the fluorine-containing ~~chemistry~~ plasma source ranges between about 5 sccm and about 200 sccm.

18. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source further includes a chlorine-containing gas.

19. (Original) The method of claim 18 wherein the chlorine-containing gas comprises  $\text{Cl}_2$  and chlorocarbons.

20. (Currently Amended) The method of claim 1 wherein the fluorine-containing ~~chemistry~~ plasma source further includes a bromine-containing gas.

21. (Original) The method of claim 20 wherein the bromine-containing gas comprises HBr.
22. (Original) The method of claim 1 wherein the etching employs an oxygen-containing gas.
23. (Original) The method of claim 22 wherein the oxygen-containing gas comprises O<sub>2</sub>.
24. (Original) The method of claim 22 wherein the oxygen-containing gas comprises O<sub>3</sub>.
25. (Original) The method of claim 22 wherein the oxygen-containing gas comprises NO<sub>2</sub>.
26. (Original) The method of claim 22 wherein the oxygen-containing gas comprises CO<sub>2</sub>.
27. (Original) The method of claim 22 wherein the oxygen-containing gas comprises CO.
28. (Previously Presented) The method of claim 1 wherein the step of depositing the polymer layer employs a direct current (DC) bias applied to the substrate ranging between about 1 Watts and about 50 Watts.
29. (Previously Presented) The method of claim 1 wherein the step of depositing the polymer layer employs a radio frequency (RF) bias applied to the substrate ranging between about 1 Watts and about 50 Watts.
30. (Original) The method of claim 1 wherein the etching the spacer employs a direct current (DC) bias applied to the substrate ranging between about 1 Watts and about 500 Watts.
31. (Original) The method of claim 1 wherein the etching the spacer employs a radio frequency (RF) bias applied to the substrate ranging between about 1 Watts and about 500 Watts.
32. (Previously Presented) The method of claim 1 further comprising:  
forming source/drain regions in the substrate on opposing sides of the patterned feature.
33. (Original) The method of claim 32 wherein removing the spacers includes etching the spacers with an oxygen-containing gas.

Claims 34-36 (Cancelled).

37. (Previously Presented) A method of manufacturing a microelectronic device, comprising:  
forming a doped well in a substrate;  
forming a gate stack over the doped well;  
forming, in-situ, polymer spacers on opposing sides of the gate stack by:  
    employing a substrate bias and a fluorine-containing plasma source to deposit a  
conformal polymer layer over the gate stack; and  
    adjusting the substrate bias, without removing the substrate bias, to etch the polymer  
layer with the fluorine-containing plasma, thereby exposing the gate stack and defining the  
polymer spacers; and  
forming an insulating layer over the polymer spacers.

38. (Previously Presented) The method of claim 37 wherein forming the doped well includes:  
employing a high density plasma source to form the doped well, the high density plasma source  
having a carbon-to-deuterium ratio ranging between about 0.1 percent and about 5 percent in a process  
ambient, wherein the process ambient pressure ranges between about 0.1 mTorr and about 500 Torr and  
the substrate is held at a temperature ranging between about 150°C and about 1100°C; and  
treating the doped well by employing a deuterium-containing plasma.

39. (Previously Presented) The method of claim 37 further comprising:  
forming source/drain regions in the doped well via ion implantation before the step of forming the  
insulating layer, wherein forming the source/drain regions includes employing the polymer spacers to  
laterally limit formation of the source/drain regions during the ion implantation; and  
forming contact regions over the source/drain regions and contacting the polymer spacers, before  
the step of forming the insulating layer.